

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Solar~~ A solar energy powered lamp driver ~~(100; 200)~~ capable of driving a gas discharge lamp ~~(L)~~, comprising:

[[~~-~~]] a half-bridge inverter ~~(130)~~, comprising:

[[~~--~~]] a first branch of two ~~controllable~~ switches ~~(131, 132)~~ coupled in series between a first reference node ~~(V1)~~ and a second reference node ~~(mass)~~;

[[~~--~~]] a second branch of two buffer capacitors ~~(133, 134)~~ coupled in series between said first reference node ~~(V1)~~ and said second reference node ~~(mass)~~;

[[~~--~~]] an output branch ~~(DE)~~ connected between ~~on the one hand~~ a first node ~~(D)~~ between said two ~~controllable~~ switches ~~(131, 132)~~ and ~~on the other hand~~ a second node ~~(E)~~ between said two

buffer capacitors ~~(133, 134)~~;

an AC mains source connected across the output branch for providing AC power having a mains frequency which is less than a switching frequency of the two switches; and

~~[[ - ]] a boost converter (110), having an output (115) connected directly to said first node (D) between said two controllable switches (131, 132).~~

2. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 1, wherein the output branch ~~(DE)~~ comprises a series arrangement of a gas discharge lamp (L) output, a decoupling capacitor ~~(135)~~ and an inductor ~~(136)~~.

3. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 1, ~~wherein the output branch (DE)~~ comprises a series arrangement of further comprising an inductor (137) and an connected in series with the AC mains input/output (138) source across the output branch.

4. (Currently Amended) ~~Driver~~ The solar energy powered lamp

driver according to claim 1, wherein the output branch ~~(DE)~~ comprises a first series arrangement of ~~a~~ the gas discharge lamp ~~(L)~~ output, a decoupling capacitor ~~(135)~~ and an inductor ~~(136)~~, and also ~~comprises~~ a second series arrangement of an inductor ~~(137)~~ and ~~an~~ the AC mains input/output (138) source, said second series arrangement being connected in parallel to said first series arrangement.

5. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 4, ~~wherein further comprising~~ a switch controller ~~(140) is~~ adapted to drive said two switches ~~(131, 132)~~ at a switching frequency ~~well above~~ a ~~the~~ mains frequency, ~~preferably at a~~ the switching frequency ~~being~~ not lower than 20 kHz, ~~more preferably at a switching frequency in the order of 40-50 kHz.~~

6. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 5, wherein said decoupling capacitor ~~(135)~~ has a ~~relatively large first~~ impedance for the mains frequency and a ~~relatively low second~~ impedance for the switch

operating switching frequency, the first impedance being larger than the second impedance.

7. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 5, wherein said inductor (137) has a relatively high first impedance for the switch operating switching frequency and a relatively low second impedance for the mains frequency, the first impedance being larger than the second impedance.

8. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 1, wherein the output branch (DE) comprises a transformer driving a rectifier.

9. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 1, further comprising a switch controller (140) adapted to generate control signals for controlling said two switches (131, 132) to either their conductive or their non-conductive state states, the switch controller (140) being adapted to drive the two switches with a combination of frequency

modulation ~~(FM)~~ and pulse width modulation ~~(PWM)~~.

10. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 9, wherein the switch controller ~~(140)~~ is adapted to set the switching frequency of the two switches ~~(131, 132)~~ such as to obtain a ~~certain~~ desired lamp current, and to set ~~the a~~ duty cycle of the two switches such as to obtain a ~~certain~~ desired mains current.

11. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 10, wherein the switch controller ~~(140)~~ is adapted to maintain a fixed switching frequency.

12. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 10, wherein the switch controller ~~(140)~~ is adapted to set a common switching frequency for the two switches ~~(131, 132)~~ and to set individual duty cycles for the two switches ~~(131, 132)~~.

13. (Currently Amended) ~~Driver~~ The solar energy powered lamp

driver according to claim 1, wherein the boost converter (110) comprises at least one photo-voltaic cell ~~(111)~~, a boost inductor ~~(112)~~ having one terminal coupled to an output of the photo-voltaic cell ~~(111)~~ and having ~~its other~~ another terminal coupled to a first terminal of a rectifying element ~~(114)~~, the rectifying element having an output terminal coupled to the output ~~(115)~~ of the boost converter ~~(110)~~.

14. (Currently Amended) ~~Driver~~ The solar energy powered lamp driver according to claim 13, wherein the boost converter (110) further comprises an additional ~~controllable~~ switch ~~(113)~~ connected between ~~on the one hand the second reference node and a node A~~ between the boost inductor ~~(112)~~ and the rectifying element ~~(114)~~ and ~~on the other hand the second reference node (mass)~~.

15. (New) The solar energy powered lamp driver, wherein the mains frequency is substantially 50-60 Hz.